CLAIMS

We claim as our invention:

1. A method for fabricating micromolds and micromold components from sinterable materials, comprising the steps of:

   a. providing at least one sinterable particulate material and at least one degradable organic thermoplastic material,

   b. mixing an accurately determined volume of at least one of said sinterable particulate material or materials with an accurately determined volume of at least one of said degradable thermoplastic material or materials to form a thermoplastic compound,

   c. forming a green micromold of micromold component from said thermoplastic compound, and

   d. extracting substantially all the organic thermoplastic material from said green micromold or micromold component and sintering the thus obtained organic-free preform to the desired density and dimensions.

2. The method as set forth in claim 1 wherein the said micromolds and micromold components are MEMS devices or MEMS components, including MEMS packages.

3. The method as set forth in claim 2 wherein the said MEMS devices or MEMS components are not limited to silicon-based material compositions.

4. The method as set forth in claim 3 wherein the said MEMS devices or MEMS components have design features which are not limited to those achievable by etching or deposition techniques.

5. The method as set forth in claim 1 whereby positive dimensional errors in silicon-based MEMS micromolds can be corrected.

6. The method as set forth in of claim 1 wherein said micromolds or micromold components are articles which, due to their small size, cannot be produced by conventional manufacturing techniques.

7. The method as set forth in claim 1 wherein the said sinterable particulate material or materials are selected from the class of metals and their alloys, ceramics and their alloys and mixtures of metals and ceramics or their alloys.

8. The method as set forth in claim 7 wherein the said sinterable material or materials are submicrometer-sized or nanometer-sized particulates.

9. The method as set forth in claim 1 wherein said degradable organic thermoplastic ingredient or ingredients are selected from the class of polyolefins, waxes, plasticizers, greases, oils, surfactants and mixtures of these.